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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/873,848	06/04/2001	Michael P. Reynolds	0031-UP	4839	
7590	06/28/2005		EXAMINER		
Daniel Reitenbach CROMPTON CORPORATION Benson Road Middlebury, CT 06749		NGUYEN, TAM M			
		ART UNIT	PAPER NUMBER		
		1764			

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

<b>Application No.</b> 09/873,848	<b>Applicant(s)</b> REYNOLDS, MICHAEL P.
<b>Examiner</b> Tam M. Nguyen	<b>Art Unit</b> 1764

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

### Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) Responsive to communication(s) filed on 24 March 2005.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) Claim(s) 1-7 and 21-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-7 and 21-26 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                     | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)               |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ . | 6) <input type="checkbox"/> Other: _____ .  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pannell et al. (WO 95/25131) alone or in view of Degnan et al. (5,573,657)

Pannell discloses a process for decolorizing/hydrogenating a halogen containing unsaturated feedstock and/or polymeric resins by contacting the feedstock with a catalyst comprising a metal of Group VIII (e.g., Ni), a support (e.g., silica-alumina), and about 0.2-10 wt.% of promoter. Pannell does not specifically disclose that the polymer feedstock has a carbon atom number ranging of from 2 to 20. However, Pannell teaches that the polymer is made from 4-6 carbon materials. Hence, it would be expected that the polymer comprises a polymer having a carbon number of from between 8 and 20. The catalyst has particle sizes of from 0.0001 to 5 mm (.1 to 5000 micron). (See; abstract; page 1, lines 9-20; page 3, line 30 through page 6, line 32; page 7, line 40 through page 8, line 36; claim 5)

Pannell does not specifically disclose that the support is amorphous. However, Pannell does not disclose that the support is a crystallizer or the support is going through a crystallization step. Therefore, it would be expected that the support of Pannell is amorphous.

Alternative, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Pannell by using an amorphous support as taught by Degnan (See col. 2, lines 66-67) because Pannell discloses that any known support can be used in the process (See page 6, lines 16-20).

Pannell does not disclose that the feedstock is a polyalphaolefin (e.g., 1-decene).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Pannell by using a polyalphaolefin feedstock because Pannell discloses that any polymer can be used in the process. Therefore, one

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of skill in the art would use any polymer including the claimed polymer (e.g., 1-decene) and it would be expected that the results would be the same or similar when using the claimed feedstock or other polymers in the process of Pannell.

Claims 24 and 25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Pannell, Richard Byron (EP 0389119) in view of Degnan et al. (5,573,657)

Pannell discloses a process for decolorizing/hydrogenating a halogen containing unsaturated feedstock (e.g. 1-decene) and/or polymeric resins by contacting the feedstock with a catalyst comprising about 3-6% of a metal of Group VIII (e.g., Ni), a support (e.g., alumina) and promoters. Pannell does not specifically disclose that the support is amorphous. However, Pannell does not disclose that the support is a crystallizer or the support is going through a crystallization step. Therefore, it would be expected that the support of Pannell is amorphous. (See abstract; page 2, lines 52-55; page 3, lines 8-30; Tables I and II; page 5, lines 20-26)

Alternative, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Pannell by using an amorphous support as taught by Degnan (See col. 2, lines 66-67) because Pannell discloses that any known support can be used in the process.

Claim 26 is rejected under 35 U.S.C. 103(a) as obvious over Pannell, Richard Byron (EP 0389119).

Pannell does not specifically disclose that the metal of group VIII is palladium.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Pannell by using Palladium because Pannell

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teaches that any metal of Group VIII can be used in the catalyst. Therefore, one of skill in the art would use any metal of Group VIII including palladium with the expectation that any metal of Group VIII would give similar results.

Claims 24 and 25 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Heilman et al. (6,124,513) in view of Degnan et al. (5,573,657)

Heilman discloses a process for hydrogenating a polyalphaolefinic feedstock (e.g. 1-decene) by contacting the feedstock with a catalyst comprising about 0.1-5 wt. % of a metal of Group VIII (e.g., palladium) and a support (e.g., alumina). Heilman does not specifically disclose that the support is amorphous. However, Heilman does not disclose that the support is a crystalline material or the support is going through a crystallization step. Therefore, it would be expected that the support of Heilman is amorphous. (See abstract; col. 3, line 9; col. 6, lines, 52-60)

Alternative, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Heilman by using an amorphous support (e.g., silica-alumina) as taught by Degnan (See col. 2, lines 66-67) because support of Degnan is effective in a hydrogenation process.

Claim 26 is rejected under 35 U.S.C. 103(a) as obvious over Heilman et al. (6,124,513) in view of Degnan et al. (5,573,657).

Heilman does not disclose that the support is silica-alumina.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Heilman by using an amorphous support

(e.g., silica-alumina) as taught by Degnan (See col. 2, lines 66-67) because the support of Degnan is effective in a hydrogenation process.

***Response to Arguments***

The argument that nowhere does Pannell disclose or suggest a hydrogenation/dehalogenation wherein a metal of Group VIII is present in an amount of about 0.01 to about 5 wt. % is not persuasive because, as claimed in claims 1-7 and 21-23, the claimed catalyst comprises about 0.01 to 5 wt. % of a metal, which is not necessary to be a metal of Group VIII. For example, claim 7 claims an amorphous catalyst comprising about 0.01 to 5 wt. % of a metal, palladium, and a silica-alumina support. Pannell discloses a catalyst comprising a metal of Group VIII (e.g., Ni), a support (e.g., silica-alumina), and about 0.2-10 wt.% of a metal (promoter) as claimed.

The argument that Degnan is completely silent as to any amount that the metal component is present on the amorphous support is not persuasive because, firstly, Degnan does teach the claimed amount of metal of Group VIII. Secondly. The examiner only relied upon Degnan to teach that the claimed support is known in the art and, when operating the process of Pannell, one of skill in the art would use any support including the known support as taught by Degnan. Thirdly, Applicant has not shown that the support of Pannell is not an amorphous support.

For the arguments regarding claims 24-26, please see the new rejections above.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam M. Nguyen whose telephone number is (571) 272-1452. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tam M. Nguyen  
Examiner  
Art Unit 1764

TN

A handwritten signature in black ink, appearing to read "Tam" above a horizontal line.